

What is Claimed is:

1. A projector type display apparatus for applying light from a light source to a picture display device and projecting outgoing light from said picture display device onto a screen in an enlarged manner comprising:

    display device controller which controls said picture display device based on an input image signal;

    a camera which captures an image projected on said screen;

    detector which detects an area projected on said screen;

    image size controller which changes, based on detection results from said detector, the captured image from said camera into a predetermined image size; and

    extractor which extracts a person area in said captured image the size of which is changed by said image size controller;

    wherein said display device controller controls so that an area on said image display device corresponding to said person area is substituted by predetermined data.

2. A projector type display apparatus according to claim 1, wherein said person area extractor further comprises comparator which compares said captured image signal the size of which is changed with the image signal

controlled by said display device controller.

3. A projector type display apparatus according to claim 1, further comprising capture timing controller which controls capture timing of said camera, wherein

said image display device is controlled based on the displayed video signal input to said display device controller only during a period when said camera captures the image projected onto said screen, and

said person area extractor further comprises comparator which compares said captured image signal the size of which is changed with said displayed image signal.

4. A projector type display apparatus according to claim 1, further comprising capture timing controller which controls capture timing of said camera, wherein

said image display device is controlled based on the displayed video signal input to said display device controller only during a period when said camera captures the image projected onto said screen, and

said person area extractor further comprises comparator which compares said captured image signal the size of which is changed with the image signal controlled by said display device controller.

5. A projector type display apparatus according to claim 1, wherein

said camera is an infrared camera for capturing

infrared wavelength components of light,

the projector type display apparatus further comprises processing circuit which controls a magnification of the projected image which is projected on said screen; and

the projector type display apparatus is configured to detect the area projected on said screen based on said magnification, change the captured image from said infrared camera into a predetermined image size based on the detection result and, then, extract the person area in said captured image the size of which is changed.

6. A projector type display apparatus according to claim 1, wherein

said camera is a temperature distribution detection device which measures temperature distribution,

the projector type display apparatus further comprises processing circuit which controls a magnification of the projected image which is projected on said screen; and

the projector type display apparatus is configured to detect the area projected on said screen based on said magnification, change the captured image from said detection device into a predetermined image size based on the detection result and, then, extract the person area in said captured image the size of which is changed.

7. A projector type display apparatus according to claim 1, wherein said predetermined data is either particular uniform color data, black data or image data having a low intensity level based on said input image signal.

8. A projector type display apparatus according to claim 2, wherein said predetermined data is either particular uniform color data, black data or image data having a low intensity level based on said input image signal.

9. A projector type display apparatus according to claim 3, wherein said predetermined data is either particular uniform color data, black data or image data having a low intensity level based on said input image signal.

10. A projector type display apparatus according to claim 1, wherein said person area extractor further comprises motion detector which detects a motion area from the captured image data out of the projected area.

11. A projector type display apparatus according to claim 2, wherein said person area extractor further comprises motion detector which detects a motion area from the captured image data out of the projected area.

12. A projector type display apparatus according to claim 9, wherein said person area extractor further

comprises motion detector which detects a motion area from the captured image data out of the projected area.

13. A projector type display apparatus according to claim 2, wherein said comparator compares average values between a plurality of pixels.

14. A projector type display apparatus according to claim 3, wherein said comparator compares average values between a plurality of pixels.

15. A projector type display apparatus according to claim 4, wherein said comparator compares average values between a plurality of pixels.

16. A projector type display apparatus according to claim 5, wherein said comparator compares average values between a plurality of pixels.

17. A projector type display apparatus according to claim 6, wherein said comparator compares average values between a plurality of pixels.

18. A projector type display apparatus according to claim 12, wherein said comparator compares average values between a plurality of pixels.

19. A projector type display apparatus according to claim 3, wherein said capture timing controller is configured to determine a capture interval and capture exposure time based on cumulative light intensity for a predetermined time period.

20. A projector type display apparatus according to claim 4, wherein said capture timing controller is configured to determine a capture interval and capture exposure time based on cumulative light intensity for a predetermined time period.